

WHAT IS CLAIMED IS:

*Sub A 2*

1. A method of ameliorating male erectile dysfunction in a mammal comprising nasally administering a therapeutically effective amount of a dopamine receptor agonist to said mammal before, during or after sexual activity which is sufficient to induce an erection without causing substantial intolerable adverse side effects to said mammal.

2. The method of Claim 1, wherein said dopamine receptor agonist is selected from the group consisting of apomorphine, chemically modified equivalents and pharmaceutical salts thereof.

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3. A pharmaceutical composition for treating male erectile dysfunction in a mammal comprising a therapeutically effective amount of a dopamine receptor agonist in combination with a nasal delivery system, wherein said pharmaceutical composition does not cause substantial intolerable adverse side effects in said mammal.

4. The pharmaceutical composition of Claim 3, wherein said dopamine receptor agonist is apomorphine.

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5. The pharmaceutical composition of Claim 4, wherein said apomorphine is dispersed in an aqueous or non-aqueous formulation.

6. The pharmaceutical composition of Claim 4, wherein said nasal delivery system comprises a buffer to maintain the pH of said dopamine receptor agonist, a pharmaceutically acceptable thickening agent and a humectant.

7. The pharmaceutical composition of Claim 6, further comprising one or more pharmaceutical excipients.

8. The pharmaceutical composition of Claim 7, further comprising a pharmaceutically acceptable preservative.

9. The pharmaceutical composition of Claim 6, wherein said buffer is selected from the group consisting of acetate, citrate, prolamine, carbonate and phosphate buffers.

10. The pharmaceutical composition of Claim 6, wherein said thickening agent is selected from the group consisting of methyl cellulose, xanthan gum, carboxymethyl cellulose, hydroxypropyl cellulose, carbomer, polyvinyl alcohol, alginates, acacia, chitosans and combinations thereof.

11. The pharmaceutical composition of Claim 6, wherein said humectant is selected from the group consisting of sorbitol, glycerol, mineral oil, vegetable oil and combinations thereof.

12. A method of treating erectile dysfunction in a male mammal comprising nasally administering the composition according to Claim 3.

13. The pharmaceutical composition of Claim 3, wherein said dopamine receptor agonist is selected from the group consisting of apomorphine, chemically modified equivalents and pharmaceutical salts thereof.

14. The pharmaceutical composition of Claim 13, wherein said chemically modified equivalents comprise a pro-drug.

15. A nasally administered pharmaceutical composition comprising a therapeutically effective amount of a dopamine receptor agonist dispersed in a buffer to maintain its pH, a pharmaceutically acceptable thickening agent and a humectant, wherein said nasally administered pharmaceutical composition does not cause substantial intolerable adverse side effects when administered to said mammal.

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*APB*

16. The nasally administered pharmaceutical composition of Claim 15, wherein said dopamine receptor agonist is selected from the group including apomorphine, chemically modified equivalents and pharmaceutical salts thereof.

17. The nasally administered pharmaceutical composition of Claim 16, wherein said chemically modified equivalents comprise a pro-drug.

18. A method of treating impotence and male erectile dysfunction in a human in need of such treatment comprising administering to a nasal membrane of said human an effective amount of a composition according to Claim 15.

19. A method of treating male erectile dysfunction without causing substantial intolerable adverse side effects in a mammal comprising administering into a nasal cavity of said mammal a therapeutically effective dosage of a dopamine receptor agonist in combination with a nasal delivery system comprising a pharmaceutically acceptable buffer, a thickening agent and a humectant.

20. The method of Claim 19, wherein said dopamine receptor agonist is selected from the group consisting of apomorphine, chemically modified equivalents and pharmaceutical salts thereof.

21. The method of Claim 20, wherein said chemically modified equivalents comprise a pro-drug.

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22. A method of administering a therapeutically effective amount of a dopamine receptor agonist to a mammal through a nasal membrane thereof comprising delivering to said nasal membrane a therapeutically effective amount of said dopamine receptor agonist which does not cause substantial intolerable adverse side effects in said mammal, wherein said dopamine receptor agonist is dispersed in a nasal delivery system comprising a pharmaceutically acceptable a buffer, a thickening agent and a humectant.

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23. The method of Claim 22, wherein said dopamine receptor agonist is effective for the treatment of male erectile dysfunction in a mammal.

24. An intranasal dosage unit for treating impotency or erectile dysfunction in a mammal comprising an effective amount of a dopamine receptor agonist in combination with an intranasal carrier comprising a buffer, wherein said dosage unit does not cause substantial intolerable adverse side effects in said mammal and an erection is produced in said mammal within about 60 minutes of administering said dosage unit to a nasal mucosa of said mammal.

25. The intranasal dosage unit of Claim 24, wherein said erection is produced within about 45 minutes.

26. The intranasal dosage unit of Claim 24, wherein said erection is produced within about 30 minutes.

27. The intranasal dosage unit of Claim 24, wherein said erection is produced within about 15 minutes.

28. The intranasal dosage unit of Claim 24, wherein said erection is produced in less than about 15 minutes.

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29. The intranasal dosage unit of Claim 24, wherein said intranasal carrier is an aqueous solution.

30. The intranasal dosage unit of Claim 29, wherein said aqueous solution is selected from the group consisting of aqueous gels, aqueous suspensions, aqueous liposomal dispersions, aqueous emulsions, aqueous microemulsions and combinations thereof.

31. The intranasal dosage unit of Claim 24, wherein said intranasal carrier is a non-aqueous solution.

32. The intranasal dosage unit of Claim 31, wherein said non-aqueous solution is selected from the group consisting of non-aqueous gels, non-aqueous suspensions, non-aqueous liposomal dispersions, non-aqueous emulsions, non-aqueous microemulsions and combinations thereof.

33. The intranasal dosage unit of Claim 24, wherein said intranasal carrier is a powder formulation.

34. The intranasal dosage unit of Claim 33, wherein said powder formulation is selected from the group consisting of simple powder mixtures, powder microspheres, coated powder microspheres, ribosomes and combinations thereof.

35. The intranasal dosage unit of Claim 24, further comprising an excipient having bio-adhesive properties.

36. The intranasal dosage unit of Claim 24, wherein said buffer is selected to have a pH of from about 3 to about 10.

37. The intranasal dosage unit of Claim 24, further comprising a humectant.

38. The intranasal dosage unit of Claim 37, wherein said humectant is selected from the group consisting of soothing agents, membrane conditioners, sweeteners and combinations thereof.

39. A nasally administered pharmaceutical composition for treating male erectile dysfunction in a mammal comprising a therapeutically effective amount of a dopamine receptor agonist which has been dispersed in a system to improve its solubility.

40. The nasally administered pharmaceutical composition of Claim 39, wherein said dopamine receptor agonist is selected from the group consisting of apomorphine, chemically modified equivalents and pharmaceutical salts thereof.

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41. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises glycerin.

42. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises a glycol derivative.

43. The nasally administered pharmaceutical composition of Claim 42, wherein said glycol derivative is propylene glycol.

44. The nasally administered pharmaceutical composition of Claim 42, wherein said glycol derivative is polyethylene glycol.

45. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises a sugar alcohol.

46. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises propylene glycol and glycerin.

47. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises ascorbic acid and water.

48. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises sodium ascorbate and water.

49. The nasally administered pharmaceutical composition of Claim 39, wherein said system comprises sodium metabisulfite and water.

50. A nasally administered pharmaceutical composition for treating male erectile dysfunction in a mammal comprising a therapeutically effective amount of a dopamine receptor agonist which has been dispersed in a system to improve its stability.

51. The nasally administered pharmaceutical composition of Claim 50, wherein said dopamine receptor agonist is selected from the group consisting of apomorphine, chemically modified equivalents and pharmaceutical salts thereof.

52. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises glycerin.

53. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises a glycol derivative.

54. The nasally administered pharmaceutical composition of Claim 53, wherein said glycol derivative is propylene glycol.

55. The nasally administered pharmaceutical composition of Claim 53, wherein said glycol derivative is polyethylene glycol.

56. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises a sugar alcohol.

57. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises propylene glycol and glycerin.

58. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises polyethylene glycol 400.

59. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises ascorbic acid and water.

60. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises sodium ascorbate and water.

61. The nasally administered pharmaceutical composition of Claim 50, wherein said system comprises sodium metabisulfite and water.

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